AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (original): A manufacturing method of a semiconductor device having an STI region in which a trench is formed in a semiconductor region by etching and an insulator is filled into the trench, the method comprising the steps of: preparing dichloroethylene (DCE); and subjecting an inside of the trench to halogen oxidation with the dichlroethylene, whereby an angle of a corner portion of the semiconductor region adjacent to an opening upper end portion of the trench is made rounder than the angle before the halogen oxidation.

2. (original): The manufacturing method of the semiconductor device according to claim 1, wherein an insulating film, which gradually becomes thinner from the opening upper end portion of the trench to a bottom portion of the trench, is formed in the trench by the halogen oxidation with the dichloroethylene.

3. (currently amended):: The manufacturing method of the semiconductor device according to claim 1 ~~or 2~~, wherein a concentration of the dichloroethylene in an oxygen environment is within a range of 0.45% to 1.97% by weight.

4. (currently amended):: The manufacturing method of the semiconductor device according to claim 1 ~~any one of claims 1 to 3~~, comprising the step of filling the insulator into the trench after the halogen oxidation.

5. (original): An oxidation method of a semiconductor substrate having an STI region in which a trench is formed in a semiconductor region by etching and an insulator is filled into the trench, the method comprising the steps of: preparing dichloroethylene (DCE); and subjecting an inside of the trench to halogen oxidation with the dichloroethylene, whereby a thickness of an oxide film at a corner portion of the semiconductor region adjacent to an opening upper end portion of the trench is made greater than a thickness of the other oxide film in the trench.

6. (original): The oxidation method of the semiconductor substrate according to claim 5, comprising the step of: using nitrogen as a

carrier gas, bubbling with the nitrogen to vaporize the dichloroethylene, and introducing, together with oxygen, the dichloroethylene into a furnace containing a semiconductor substrate in which the trench is formed, wherein a content of the dichloroethylene in an oxygen environment in the furnace is decided by a weight percent between a weight of oxygen introduced into the furnace and the DCE introduced into the furnace by the bubbling.

7. (original): The manufacturing method of the semiconductor substrate according to claim 6, wherein the weight percent indicating a proportion of a flow rate of the oxygen to a flow rate of the nitrogen is within a range of 0.45% to 1.97%.

8. (new): The manufacturing method of the semiconductor device according to claim 2, wherein a concentration of the dichloroethylene in an oxygen environment is within a range of 0.45% to 1.97% by weight.

9. (new): The manufacturing method of the semiconductor device according to claim 2, comprising the step of filling the insulator into the trench after the halogen oxidation.

10. (new): The manufacturing method of the semiconductor device according to claim 3, comprising the step of filling the insulator into the trench after the halogen oxidation.